



## F1102 Installation Instructions 2021 Ford Bronco 2 Door / 4 Door 1" Strut Spacer Leveling Kit

Read and understand all instructions and warnings prior to installation of product and operation of vehicle.

Zone Offroad Products recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known. Minimum tool requirements include the following: Assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands. See the "Special Tools Required" section for additional tools needed to complete this installation properly and safely.

### »» PRODUCT SAFETY WARNING

Certain Zone Suspension Products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. Zone Offroad Products does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

### »» TECHNICAL SUPPORT

[www.zoneoffroad.com](http://www.zoneoffroad.com) may have additional information about this product including the latest instructions, videos, photos, etc.

Send an e-mail to [tech-zone@ridefox.com](mailto:tech-zone@ridefox.com) detailing your issue for a quick response.

**888.998.ZONE** Call to speak directly with Zone tech support.

### »» PRE-INSTALLATION NOTES

1. Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
2. **Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.**
3. Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
4. Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
5. Secure and properly block vehicle prior to installation of Zone Offroad Products. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, Zone Offroad Products recommends rear alterations first.
7. Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

### Difficulty Level

easy 1 **2** 3 4 5 difficult

Estimated installation: 2-3 hours

### Special Tools Required

Air Hammer (Recommended)

Basic Hand Tools

35mm Axle Nut Socket

OTC 204-592 Ball Joint Separator (Recommended)

Tie Rod End Separator (Recommended)

### Tire/Wheel Fitment

275/70 w/ stock 18" Outer Banks Wheels

315/70 w/ stock 17" Sasquatch Wheels

285/70 w/ stock 17" Badlands Wheels

35" x 11.2" on 6" to 5" BS, 9" wide wheels

35" x 12.50" on 5-1/2" to 5" BS, 9" wide wheels

See more information at end of instructions.

BS = Backspacing

## Important—measure before starting!

Measure from the center of the wheel up to the bottom edge of the wheel opening

LF \_\_\_\_\_ RF \_\_\_\_\_

LR \_\_\_\_\_ RR \_\_\_\_\_

### Step 4 Note:

Do not use power tools to remove the stabilizer bar link nut to the lower control arm. Damage to the stabilizer bar link ball joint or boot may occur

## F1102 Kit Contents

Qty	Part
2	Lower Strut Spacer
2	Upper Strut Spacer
1	Bolt Pack 367
4	14mm-2.00 x 80mm Bolt, Class 10.9, Clear Zinc
4	14mm-2.00 Prevailing Torque Nut, Clear Zinc
8	14mm Washer, Clear Zinc
6	10mm-1.50 Top Lock Flange Nut, Class 10, Clear Zinc

## INSTALLATION INSTRUCTIONS

### »» PRE-INSTALLATION NOTES

1. This kit is designed to lift the front of the vehicle 1". Can be used with stock Bilstein or black body (base model) struts.
2. Can be used with Sasquatch Suspension Package vehicles.
3. Can be used with Badlands Suspension Package vehicles.
4. CV axle nut may need to be loosened and tightened on the ground with the weight the vehicle.
5. Does not fit Bronco Sport models.

### »» FRONT DISASSEMBLY

1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Raise the front of the vehicle and support with jack stands at the frame rails.
3. Remove the front wheels.
4. Disconnect the driver's and passenger's side front sway bar links from the lower control arm. **Figure 1A** Another option is to remove the 2 bolts and 2 nuts attaching the sway bar to the frame on the driver and passenger while still leaving the sway bar links attached to the lower control arm **Figure 2B**. Allow the sway bar to rest out of the way for the front end disassembly. Thread locker will be required if disassembled from the mounts to the frame.

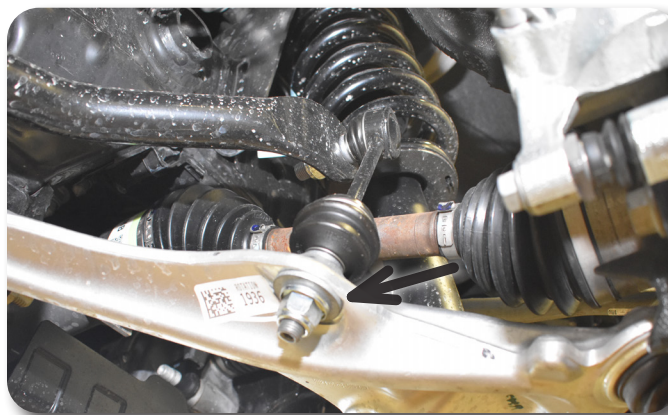


Figure 1A



Figure 1B

*Complete this portion of the installation on one side at a time*

5. Disconnect the front brake line and ABS line from the steering knuckle. Figure 2

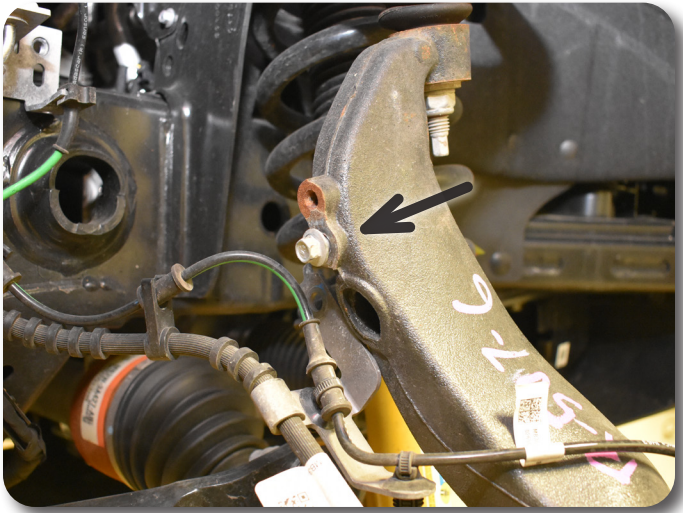


Figure 2

6. Disconnect the front brake line from the frame. Figure 3

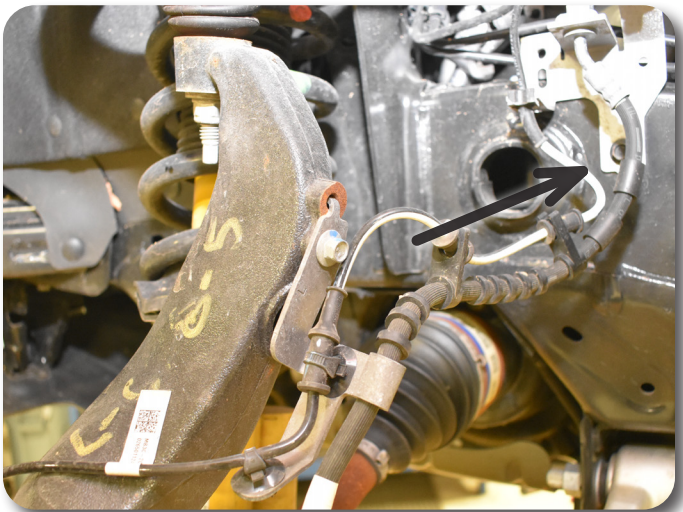


Figure 3

7. Remove the steering tie rod end nut from the tie rod end at the steering knuckle. Use a tie rod end remover to dislodge the tie rod end from the knuckle. Be careful not to damage the boot. **Figure 4** Remove the tie rod end from the knuckle.



Figure 4

8. Remove the upper ball joint nut and thread back on a couple of turns by hand. Use a ball joint separator tool to dislodge the upper ball joint from the knuckle (204-592 tool recommended). Be careful not to damage the boot. **Figure 5** Remove the nut and remove the ball joint from the knuckle. Allow the knuckle to rest back away from the front strut.

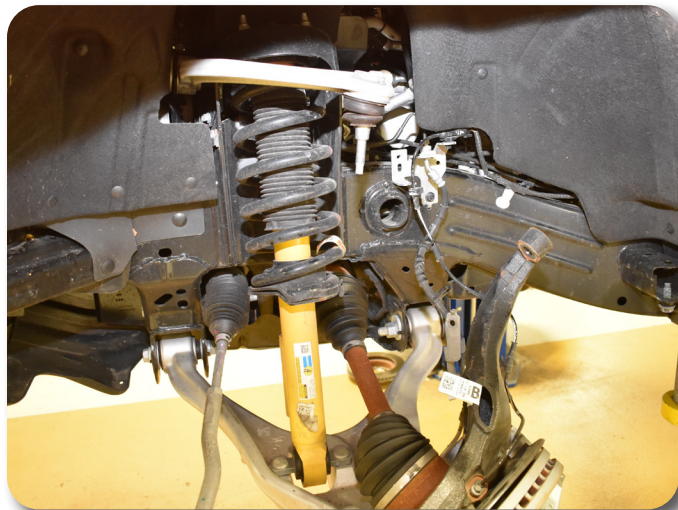


Figure 5

9. **Optional:** Remove the CV retaining nut. **Figure 6**

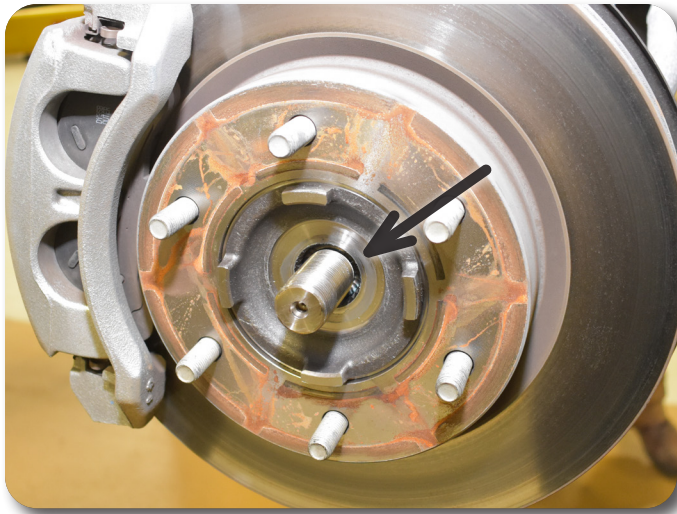


Figure 6

10. **Optional:** Use an air hammer to dislodge the CV shaft from the hub **Figure 7**. This step is optional, but will make it easier to remove the strut from the vehicle.



Figure 7

11. Support the lower control arm with an appropriate jack. Remove the lower strut mount nuts at the lower control arm. Use the air hammer to dislodge the strut studs in the lower strut mounts **Figure 8A & B**. Discard the lower strut studs and nuts.

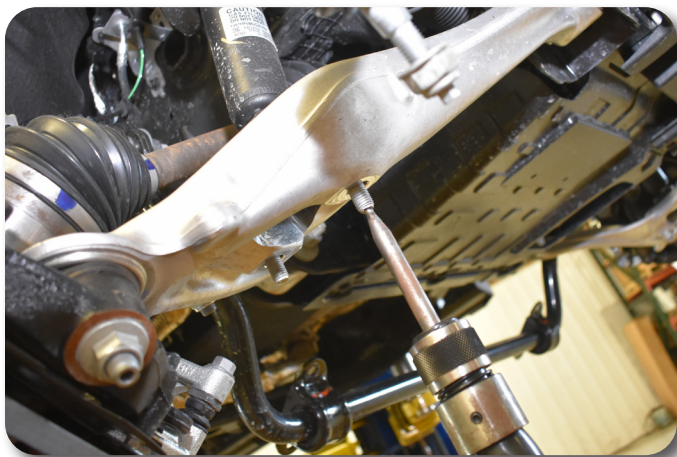


Figure 8A

**Step 10 Note:**

Be careful not to hit the threads on the CV shaft

A punch and hammer can also be used to dislodge the CV shaft from the hub..

**Step 11 Note:**

A punch and hammer can also be used to dislodge the studs from the lower strut mount.

**Step 11 Note:**

Be sure to support the lower control arm / knuckle assembly when removing the strut.

### Fig 8B Note:

Picture is shown with the strut removed from the vehicle. For ease of disassembly remove the lower strut studs when the strut is in the vehicle. This will make it easier to remove the strut from the vehicle.



Figure 8B

12. Remove the three upper strut mounting nuts at the frame. Figure 9 DO NOT remove the center strut rod nut. Discard the nuts.

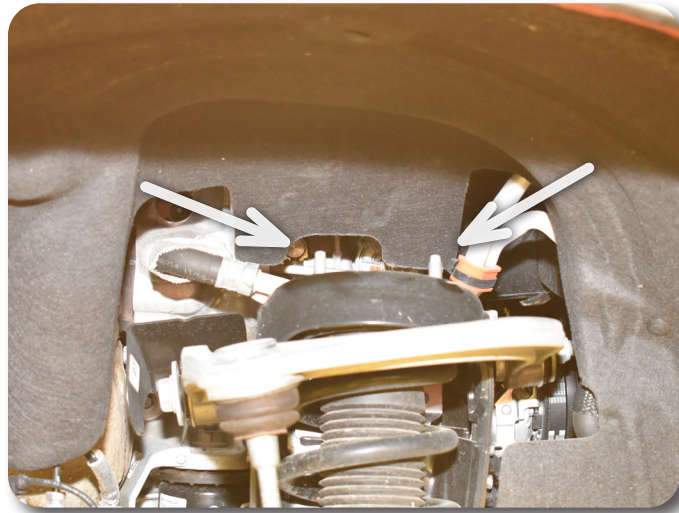


Figure 9

13. Using the jack, lower the lower control arm / knuckle assembly and remove the strut from the vehicle Figure 10.

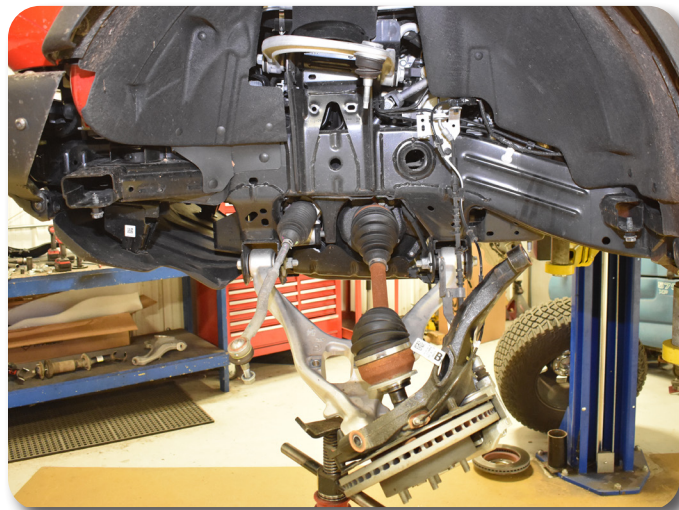


Figure 10

### Step 13 Note:

Be sure to support the lower control arm / knuckle assembly when removing the strut. Be careful not to pull out the inner CV joint from the axle shaft. If needed, refer to previous step about removing CV axle nut and dislodging the CV shaft from the hub.

## » STRUT SPACER INSTALLATION

14. Install the upper strut spacer on the strut Figure 11. The strut spacer will only install one way with the alignment pin on the strut.



Figure 11

15. Reinstall the strut assembly into the upper frame mount by aligning the studs in the new spacer with the original mounting holes. Loosely fasten the strut to the upper frame mount with the provided 10mm nuts.
16. Line up the bottom mount of the strut with the lower control arm mount holes and sandwich a lower strut spacer between the two Figure 12 & 13. Attach using two 14mm bolts, washers, and nuts.



Figure 12

### Step 15 & 16 Note:

Hardware for the upper and lower strut mounts is in Bolt Pack 367.

### Step 16 Note:

Match the profile of the lower strut spacer to the lower control arm profile.



Figure 13

17. With the lower hardware installed, go back and torque the new upper hardware to 41 ft-lbs. DO NOT EXCEED 41 ft-lbs when tightening the strut to the frame. DO NOT USE an impact to tighten the strut to the frame.
18. Tighten the 14mm lower strut hardware 66 ft-lbs.

#### » FRONT ASSEMBLY

19. With the strut installed, reconnect the knuckle to the upper ball joint. Replace with factory hardware. While connecting the upper ball joint, be sure that the CV shaft properly aligns into the hub **Figure 14**. Torque the upper ball joint nut to 46 ft-lbs.

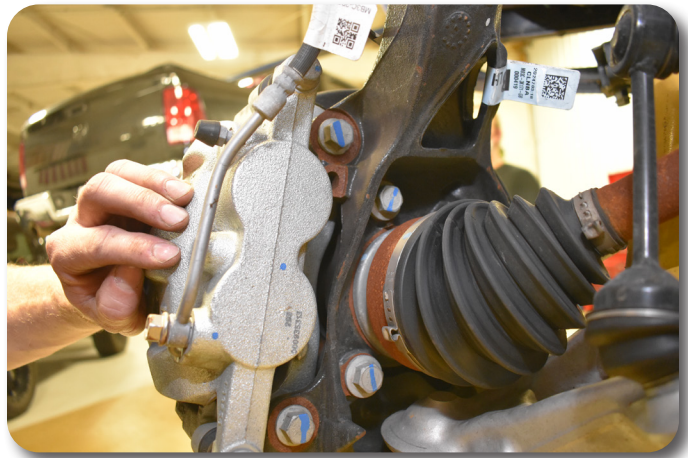


Figure 14

#### **Step 20 Note:**

CV axle nut may need to be torqued on the ground with the weight of the vehicle.

20. Be sure the CV is properly seated in the hub and replace with a factory CV axle nut. Torque the CV axle nut to 221 ft-lbs.
21. Reconnect the brake line bracket and ABS line to the steering knuckle and frame with the factory bolts. Torque hardware to 159 in-lbs.
22. Attach the steering tie rod end to the steering knuckle and replace with factory nut. Torque to 46ft-lbs.
23. Complete installation of strut spacers on both sides of the vehicle.



## » FINAL FRONT ASSEMBLY

24. With both sides complete, reconnect the sway bar links to the lower control arm and replace with factory hardware. Torque to 111 ft-lbs. If the sway bar was removed from the mounts to the frame, replace the 2 factory bolts and 2 factory nuts to the mounts in the frame. Thread locker must be used on the bolts if removed from the mounts to the frame.
25. Install the wheels and lower the vehicle to the ground. Torque lug nuts to 100 ft-lbs in a crossing pattern.
26. Adjust head lights.
27. The vehicle will need a complete front end alignment.
28. Check all hardware for proper torque. Check hardware after 500 miles.

### Step 24 Note:

Do not use power tools to remove the stabilizer bar link nut to the lower control arm. Damage to the stabilizer bar link ball joint or boot may occur

### Recommend Alignment Specifications

#### CASTER

$3.18^{\circ} \pm 0.60^{\circ}$

#### CAMBER

$+0.20^{\circ} \pm 0.50^{\circ}$

#### TOE

$+0.10^{\circ} \pm 0.15^{\circ}$

### Post-Installation Warnings

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.
2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure.
3. Perform head light check and adjustment.
4. Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

## » WHEEL / TIRE FITMENT NOTES

### Fitment Note:

All Wheel / Tire fitment information is with the front and rear intrusion beams removed same as how a Sasquatch model has them removed.

Tire diameter and width will vary based around tire brands and wheels used. Tire side profile will also affect clearance to the stock UCA and sway bar.

1. A 275/70R18 is recommended on 18" Outer Banks or Black Diamond wheels or other wheels with similar back spacing (6.375" BS).
1. A 285/70R17 is recommended on 17" Badlands wheels or other wheels with similar back spacing (6.75" BS).
1. A 315/70R17 is recommended on 17" Sasquatch wheels or other wheels with similar back spacing (6" BS).
2. 35" x 12.50" tire on a stock 17" Badlands or 18" Outer Banks wheel will NOT clear through wheel travel and will rub on the stock UCA when turning **Figure A** and sway bar. This may also cause the tire to rub on the front body mount as shown in **Figure B/C**. Any other stock wheel or aftermarket wheel with 6.75" to 6" back spacing will have similar rub issues on a 35" x 12.50" tire.



Figure A



Figure B



Figure C

3. A maximum of 35" x 11.20" (285mm width tire) tire on a 17x8.5, 17x9, 18x8, 18x9, or 20x9 on 6" to 5" back spacing will clear through wheel travel and is recommended for best performance and minimal rubbing. Wider tires / more aggressive sidewall tires than 285mm width (295-315mm widths) will rub the sway bar and / or UCA on a 6" or more back space wheel.

20": 285/65R20, 285/60R20

18": 285/75R18, 285/70R18

17": 285/75R17, 285/70R17

4. A maximum of 35" x 12.50" tire on a 17x8.5, 17x9, 18x8, 18x9, or 20x9 on 5.5" to 5" back spacing will clear through wheel travel and is recommended for best performance and minimal rubbing **Figure D**. 37" x 12.50" tires will rub the front body mount as shown in **Figure B/C** as well as the rear inner fender shown in **Figure E**.



Figure D



Figure E